

Claims

1. Method for starting crushing in a gyratory crusher, which comprises a crushing
5 head (3) provided with a first crushing shell (4), which head is fastened on a shaft
(1), and a second crushing shell (5) together with the first crushing shell (4) defining
a crushing gap (6), the width of which is adjustable, the gap (6) being arranged to
receive material which is to be crushed and a driving device (10) being arranged to
bring the crushing head (3) to execute a gyratory pendulum movement,
10 c h a r a c t e r - i z e d by the following steps
a) that the driving device (10) is started and brings the crushing head (3) to
execute a gyratory pendulum movement and that a first width of the gap (6) is
set,
b) that a supply of material in the gap (6) is commenced,
15 c) that the resulting load on the crusher is measured,
d) that the width of the gap (6) is adjusted so that the load will approach a
desired value,
e) that a measure which is representative of the width of the gap (6) after
adjustment is read, and
20 f) that the read measure which is representative of the width of the gap (6) after
adjustment is utilized for calculation of a gap width for use as first width of the
gap (6) in carrying out step a) upon a next-coming starting-up of a crushing
course.
- 25 2. Method according to claim 1, wherein step b) also comprises that a countdown of
a predetermined time is started when the supply of material in the gap (6) is
commenced and that step d) also comprises that a check if an adjustment has taken
place within said predetermined time is carried out, step f) being carried out only if
said adjustment has taken place within said predetermined time.
- 30 3. Method according to claim 2, wherein said predetermined time is 3–30 s.
4. Method according to any one of claims 2–3, wherein in step e), if a plurality of
adjustments have taken place within said predetermined time, the measure which is
35 representative of the width of the gap (6) after the first adjustment is read.
5. Method according to any one of claims 2–4, wherein, if adjustment of the gap
width according to step d) has taken place not until after said predetermined time,

the same first gap width as upon the current starting-up is selected as gap width for use as first width of the gap (6) in carrying out step a) upon a next-coming starting-up.

- 5 6. Method according to any one of the preceding claims, wherein step f) comprises that a ratio between the measure which is representative of the gap width after adjustment and a width which is intended to be used during continuous operation of the crusher is calculated and that the first gap width in carrying out step a) upon a next-coming starting-up is calculated based on this ratio.
- 10 7. Method according to claim 6, wherein a mean value is calculated of the ratios between the measure representative of the width of the gap (6) after adjustment and the width intended for use during continuous operation of the crusher which have been calculated upon a plurality of starting-ups, said mean value being utilized for
- 15 calculation of a first width in carrying out step a) upon a next-coming starting-up.
8. Method according to claim 7, wherein the ratios that have been calculated upon the 3–10 latest starting-ups are utilized for calculation of said mean value.
- 20 9. Control system for starting-up crushing in a gyratory crusher, which comprises a crushing head (3) provided with a first crushing shell (4), which head is fastened on a shaft (1), and a second crushing shell (5) together with the first crushing shell (4) defining a crushing gap (6), the width of which is adjustable, the gap (6) being arranged to receive material which is to be crushed and a driving device (10) being
- 25 arranged to bring the crushing head (3) to execute a gyratory pendulum movement, characterized by
- means (11) for start of the driving device (10) in order to bring the crushing head (3) to execute a gyratory pendulum movement,
- means (11) for adjusting of a first width of the gap (6),
- 30 means (11, 12, 12', 13, 13') for receiving measuring signals concerning the load on the crusher resulting from the supplied material,
- means (11) for such an adjustment of the width of the gap (6) that the load approaches a desired value,
- means (11, 14, 14') for readout of a measure (A1, A2; A10, A11) which is
- 35 representative of the width of the gap (6) after adjustment, and
- a device (11) in order to calculate, by means of said measure (A1, A2; A10, A11), a gap width for use as first width of the gap (6) in carrying out a next-coming starting-up of a crushing course.

10. Control system according to claim 9, wherein said means (11, 12, 12', 13, 13') for receiving measuring signals also comprises a clock (11) for countdown of a predetermined time from a juncture when supply of material has been commenced, the device (11), in order to calculate, by means of said measure (A1, A2; A10, A11), a gap width for use as first width of the gap (6) in carrying out a next-coming starting-up of a crushing course, carrying out said calculation only if said adjustment has taken place within the predetermined time.